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BOTANY.—*Homonyms among names of trees and fossil plants*.¹ ELBERT L. LITTLE, JR., U. S. Forest Service. (Communicated by WILLIAM A. DAYTON.)

The same names have sometimes been given independently both to species of living trees of the United States and to different species of fossil plants, but the number of homonyms of this type not previously corrected is relatively small. In the course of the preparation of a revised *Check list of the native and naturalized trees of the United States*, the accepted names have been checked against homonyms among fossil plants. Fortunately, only three changes in nomenclature have been necessary for the above publication, but additional names of tree species distinguished by some authors, as well as some names of fossils, are affected. It seems desirable to call attention to these homonyms among recent and fossil plants and to suggest that taxonomists working with living plants, and paleobotanists studying fossils, carefully compare their proposed new names before publication with the indexes of both groups, in order to avoid preoccupied names.

The International Rules of Botanical Nomenclature (ed. 3. 1935) apply to recent and fossil plants alike (art. 9), though a few special rules have been adopted for fossil plants. Nomenclature of fossil plants begins with the year 1820 (art. 20). A Latin diagnosis is not required for names of new groups of fossil plants (art. 38), but after January 1, 1912, names of new groups of fossil plants must be accompanied by illustrations (which serve as substitutes for duplicate specimens) in addition to the descriptions, or by references to earlier illustrations (art. 39). The rule about homonyms was changed in 1930 to reject a later homonym even if the earlier homonym is a synonym and not in use (arts. 60 (3) and 61). As a result of the change, some homonyms previously correctly used

suddenly became invalid. Also, since specific epithets long abandoned as synonyms can never be used again in the same genus, there is now a greater possibility of making unintentional homonyms in large genera of woody plants having both living and extinct species.

Names of recent plants are well indexed in standard references, such as *Index Kewensis* and its supplements and the *Gray Herbarium card-index*. Fossil plants, however, are not so thoroughly cataloged. A detailed catalog of names of fossil plants of the world, *Fossilium catalogus II: Plantae*, edited by Jongmans² is in progress. Most of the 24 parts issued since the work was begun in 1913 are about extinct groups. The following parts, however, cover seven important families of recent woody plants and should be consulted by taxonomists making new names in these groups: Pars 6, Juglandaceae (1915); pars 8, Betulaceae (1916); pars 10, Ulmaceae (1922); pars 14, Sapindaceae (1928); pars 20, Anacardiaceae (1935); pars 23, Cornaceae (1938); and pars 24, Vitaceae (1939). Additional parts of interest also to students of recent plants are: Pars 13, Muscineae (1927); pars 17, Dicotyledones (ligna), or fossil wood (1931); and pars 19, Charophyta (1933).

In 1919 Knowlton³ published a catalog of the Mesozoic and Cenozoic plants of North America known at that time, which should be consulted by taxonomists making new names in genera such as woody plants also represented as fossils. All affected fossil names that were known to be later homonyms of recent species were corrected by

² JONGMANS, W., ed., *Fossilium Catalogus II: Plantae*, pts. 1-24. 's-Gravenhage, 1913-1939.

³ KNOWLTON, F. H., *A catalogue of the Mesozoic and Cenozoic plants of North America*. U. S. Geol. Surv. Bull. 696, 815 pp. 1919.

¹ Received February 4, 1943.

Knowlton and Cockerell in Knowlton's catalog (p. 11). This catalog, however, did not cover fossils outside North America, names published after 1919, or Paleozoic fossils, though Paleozoic fossils are in extinct genera. The United States Geological Survey, Washington, D. C., has an unpublished card catalog of names of fossil plants throughout the Plant Kingdom up to the year 1933, when compilation was discontinued. This valuable and detailed card catalog is located in the division of paleontology, United States National Museum. The homonyms mentioned here are among those detected when the accepted names of native and naturalized trees of the United States were checked against names of fossils in the paleobotanical card catalog. Most of these homonyms concern European fossils, especially names published before *Index Kewensis*, and a few names appearing since Knowlton's catalog.

The three changes in nomenclature from that of Sudworth's check list required because the names were used previously for fossils are summarized below.

Ilex amelanchier M. A. Curt.

SERVICEBERRY HOLLY

Prinos dubius G. Don, Gen. Syst. Gard. Bot. 2: 20. 1832.

Ilex amelanchier M. A. Curt. ex Chapm., Fl. South. U. S. 270. 1860.

Ilex dubia (G. Don) B. S. P., Prelim. Cat. Anth. Pter. New York 11. 1888. Not *Ilex dubia* Weber, Palaeontographica 2: 203, pl. 22, fig. 9. 1851 (fossil, Oligocene, Prussia).

Fernald (Rhodora 41: 424-429, pl. 559. 1939) showed by examining the type that *Ilex dubia* (G. Don) B. S. P. is the same as *Ilex amelanchier* M. A. Curt. and so took up the former name. However, as *Ilex dubia* (G. Don) B. S. P. is a later homonym of a fossil, the name *Ilex amelanchier* M. A. Curt. should be restored. This shrubby species of the Coastal Plain from New Jersey to Georgia and Louisiana becomes a small tree according to Small (Man. Southeast. Fl. 1502. 1933) and will be added to the check list.

× **Quercus burnetensis** Little BURNET OAK

Quercus macrocarpa Michx. × *Quercus virginiana* Mill.

× *Quercus coloradensis* Ashe, Bull. Torrey Bot. Club 49: 268. 1922. Not *Quercus coloradensis* Lesq., Bull. Mus. Comp. Zool. 16: 46. 1888 (fossil, Eocene, Colorado).

× *Quercus burnetensis* Little, Journ. Washington Acad. Sci. 33: 9. 1943.

× **Quercus filialis** Little VARILEAF OAK

Quercus phellos L. × *Quercus velutina* Lam.

× *Quercus inaequalis* Palmer & Steyermark, Missouri Bot. Gard. Ann. 22: 521. 1935. Not *Quercus inaequalis* Watelet, Descr. Pl. Foss. Bass. Paris 136, pl. 35, fig. 8. 1866 (fossil, Eocene, France).

× *Quercus filialis* Little, Journ. Washington Acad. Sci. 33: 10. 1943.

The two earlier fossil homonyms of *Salix lancifolia* indicated below do not invalidate the name when transferred to a variety. The variety stands as a new name, rather than a new combination (art. 16), and Andersson is not cited as original author. The same epithet may be used as a species and variety (art. 29).

Salix lasiandra Benth. var. **lancifolia** Bebb

PACIFIC GRAY WILLOW

Salix lancifolia Anderss., Svenska Vet.-Akad. Handl. 6: 34, pl. 2, fig. 23. 1867. Not *Salix lancifolia* A. Braun, Neues Jahrb. Mineral. Geogn. Geol. Petref. 1845: 170. 1845 (fossil, Miocene, Switzerland); A. Braun ex Unger, Gen. Sp. Foss. Pl. 419. 1850. Not *Salix lancifolia* Ludw., Palaeontographica 5: 157, pl. 35, fig. 9. 1858 (fossil, Miocene, Hesse).

Salix lasiandra Benth. var. *lancifolia* Bebb in S. Wats., Bot. California 2: 84. 1879.

Names for several tree species recognized by some authors but not accepted in the check list are invalid as later homonyms of fossils. These include a recently described species of *Abies*, an older species of *Acer*, a new species of *Quercus*, and three hybrids of *Quercus*. Doubtless additional homonyms occur among the names of exotic and culti-

vated trees, which have not been checked. *Juglans sieboldiana* will serve as an example.

***Abies balsamea* (L.) Mill. var. *phanerolepis* Fern.** BRACED BALSAM FIR

Abies balsamea (L.) Mill. var. *phanerolepis* Fern., *Rhodora* 11: 203. 1909.

Abies intermedia Fulling, Journ. Southern Appalachian Bot. Club 1: 93, fig. 1. 1936. Not *Abies intermedia* Saporta, Compt. Rend. Acad. Sci. Paris 94: 1021. 1882 (fossil, Pliocene, France).

***Acer rubrum* L.** RED MAPLE

Acer rubrum L., Sp. Pl. 1055. 1753.

Acer stenocarpum Britton in Britton and Shafer, North American Trees 647, fig. 598. 1908. Not *Acer stenocarpum* Ettinghausen, Denkschr. Bayer. Akad. Wiss. München 50: 20, pl. 31, figs. 10–12. 1885 (fossil, Miocene, Carniola).

Further study is needed to determine whether *Quercus grandidentata* Ewan (Bull. Torrey Bot. Club. 64: 512. 1937) is distinct. It was described from a few collections at Monrovia, Los Angeles County, Calif.; it is closely related to *Quercus engelmanni* Greene; and it may be a hybrid between *Quercus dumosa* Nutt. and *Quercus engelmanni* Greene. Also, the name is a homonym of *Quercus grandidentata* Unger (Gen. Spec. Pl. Foss. 401. 1850; fossil, Miocene, Galicia).

Another new species, *Quercus robusta* C. H. Muller (Torreya 34: 119. 1934), known only from Oak Canyon, Chisos Mountains, Tex., is not affected because the earlier homonym, *Quercus robusta* Schulze (Zeitschr. für Naturw. 60: 457. 1887; fossil, Upper Cretaceous, Baden), upon examination was found to be a *nomen nudum* (arts. 44, 45).

The name \times *Quercus dubia* Ashe (Journ. Elisha Mitchell Sci. Soc. 11: 93. 1894) should be abandoned as a name of uncertain identity as to its supposed parents and as a later homonym. Earlier homonyms are *Quercus dubia* Alm. in L. (Pl. Surinam. 15. 1775) and the fossil *Quercus dubia* Newberry (Ann. New York Lyc. Nat. Hist. 9: 31. 1868; *nomen nudum*; fossil, Miocene, Montana); *Quercus dubia* Newberry [Proc. U. S. Nat. Mus. 5: 506. 1883 (fossil; Miocene, Montana)]. The name of the fossil species

was changed to *Quercus asymmetrica* Trel. (Mem. Nat. Acad. Sci. 20: 28, pl. 12, fig. 10. 1924).

\times ***Quercus ludoviciana* Sarg.** ST. LANDRY OAK

\times *Quercus ludoviciana* Sarg., Trees and Shrubs 2: 223. 1913.

\times *Quercus subfalcata* Trel., Proc. Amer. Phil. Soc. 56: 52. 1917. Not *Quercus subfalcata* Göppert, Tert. Fl. Insel Java 114. 1854. (*nomen nudum*; fossil, Miocene, Bohemia). Not *Quercus subfalcata* Friedrich, Geol. Specialk. Preuss. Abh. 4 (3): 257, pl. 9, figs. 4, 5. 1883 (fossil, Oligocene, Saxony).

\times *Quercus ludoviciana* var. *subfalcata* (Trel.) Rehd., Journ. Arnold Arb. 7: 240. 1926.

\times *Quercus ludoviciana* Sarg. is the hybrid between *Quercus falcata* var. *pagodaefolia* Elliott and *Quercus phellos* L. \times *Quercus subfalcata* Trel. is the hybrid between *Quercus falcata* Michx. and *Quercus phellos* L., and is a later homonym of a fossil. Rehder, under article 34, reduced the latter hybrid to a variety, and it seems simpler to group all the hybrids between two species, including hybrids of their varieties, all under the same name.

The relationships of \times *Quercus venulosa* Ashe (Journ. Elisha Mitchell Sci. Soc. 41: 268. 1926), described from Okaloosa County, Fla., are uncertain. Its supposed parents were *Quercus cinerea* Michx. and *Quercus caput-rivuli* Ashe, the latter originally described as a doubtful hybrid and later reduced by its author to *Quercus arkansana caput-rivuli* (Ashe) Ashe. The earlier homonym is *Quercus venulosa* (Eichwald) Eichwald (Lethaea Rossica 2 (1): 63, pl. 3, fig. 11. 1865; fossil, Russia), originally described as *Credneria venulosa* Eichwald (1853).

***Juglans ailantifolia* Carr.** SIEBOLD WALNUT

Juglans sieboldiana Maxim., Bull. Acad. Imper. Pétersb., sér. 3, 18: 60. 1873. Not *Juglans sieboldiana* Göppert, Tert. Fl. Insel Java 154. 1854; *nomen nudum*. Not *Juglans sieboldiana* Göppert, Tert. Fl. Schosnitz Schles. 36, pl. 25, fig. 2. 1855 (fossil, Miocene, Silesia).

Juglans ailantifolia Carr., Rev. Hort. [Paris] 50: 414, fig. 85–86. 1878.

It is unfortunate that the name *Juglans sieboldiana* Maxim., long in use for a species

from Japan cultivated in the United States, must be rejected because the name was given 18 years earlier to a fossil from Europe. According to Nagel (Foss. Cat. II: Plantae, pt. 6: 52. 1915), *Juglans sieboldiana* Göppert is a synonym of *J. acuminata* A. Br. A fossil variety of the Japanese species was named *Juglans sieboldiana* Maxim. *fossilis* Nath. (Svenska Vet.-Akad. Handl. 20 (2): 37, pl. 1, figs. 13-17, 18(?). 1883).

EXAMPLES OF DUPLICATE NAMES

An interesting example of a genus that was named among fossils before it was distinguished among living trees is *Sequoia* Endl. (Syn. Conif. 197. 1847). Though a species of living trees was named earlier *Taxodium sempervirens* Lamb. (Descr. Genus *Pinus* 2: [24]. 1824), the genus was based upon three species of fossil cones and was published with illustrations as *Steinhauera* Presl in Sternberg (Versuch Geogn.—Bot. Darst. Fl. Vorwelt. 202 illus. 1838). The more familiar name *Sequoia* Endl. has been retained by making it a *nomen conservandum*, while the older synonym, *Steinhauera* Presl, is a *nomen rejiciendum* (art. 21).

Various illustrations of homonyms that have been replaced could be cited. For example, *Juglans californica* S. Wats. (Proc. Amer. Acad. Arts Sci. 10: 349. 1875) appeared only three years before the fossil species, *Juglans californica* Lesq. (Mem. Mus. Comp. Zool. 6 (2): 34, pl. 9, fig. 14; pl. 10, fig. 23. 1878; Miocene, California). The latter was changed to *Juglans leonis* Cock. (Amer. Journ. Sci., ser. 4, 26: 543. 1908). The Miocene fossil from Alaska, *Betula alaskana* Lesq. (Proc. U. S. Nat. Mus. 5: 446, pl. 6, fig. 14. 1883) had priority over *Betula alaskana* Sarg. (Bot. Gaz. 31: 236. 1901). When the earlier use of the name was called to his attention, Sargent renamed the living species *Betula neoalaskana* Sarg. (Journ. Arnold Arb. 3: 206. 1922). However, this species has since been reduced to a variety, *Betula papyrifera* Marsh. var. *neoalaskana* (Sarg.) Raup (Contrib. Arnold Arb. 6: 152. 1934).

Among the more recent cases that have not been corrected is the shrubby species *Sorbus alaskana* G. N. Jones (Journ. Arnold

Arb. 20: 24, pl. 226. 1939), a later homonym of the Upper Cretaceous fossil, *Sorbus alaskana* Hollick (U. S. Geol. Surv. Prof. Pap. 159: 97, pl. 74, fig. 1. 1930).

FOSSILS WITH NAMES PREOCCUPIED BY RECENT TREES

The names of several species of fossils are later homonyms of names in use for recent trees of the United States. The fossils are mostly old European species that may no longer be recognized. However, if they are valid and distinct species still in the same genera and if they have not already been changed, they should be given new names by specialists familiar with them. Some of these preoccupied names of fossils that may not have been corrected are given below:

Magnolia macrophylla Vukotinovića, Jugoslav. Akad. Zagreb Rad 13: 202. 1870 (fossil, Miocene, Croatia). Not *Magnolia macrophylla* Michx., Fl. Bor.-Amer. 1: 327. 1803.

Pinus resinosa Ludwig, Palaeontographica 5: 87, pl. 18, figs. 3-4. 1857 (fossil, Miocene, Hesse). Not *Pinus resinosa* Ait., Hort. Kew. 3: 367. 1789.

Pinus rigida (Göppert and Berendt) Schimper, Traité Paléont. Végét. 2: 291. 1870 (fossil, Miocene, Prussia; originally in genus *Pinites*). In making this combination, Schimper remarked that there already existed a *Pinus rigida* Mill. Not *Pinus rigida* Mill., Gard. Dict. ed. 8, *Pinus* No. 10. 1768.

Populus tremuloides Massalongo, Pianta Foss. Terz. Vicentino 146. 1851 (fossil, Miocene, Italy). *Populus tremuloides* Wessel in Wessel and Weber, Palaeontographica 4: pl. 24, fig. 2. 1855 (*nomen nudum*; fossil, Miocene, Prussia). Not *Populus tremuloides* Michx., Fl. Bor.-Amer. 2: 243. 1803.

Quercus reticulata (Eichwald) Eichwald, Lethaea Rossica 2 (1): 62, pl. 3, fig. 16. 1865 (fossil, Cretaceous, Russia; originally *Credneria reticulata* Eichwald (1853)). Not *Quercus reticulata* Humb. and Bonpl., Pl. Aequin. 2: 20, pl. 86. 1809.

Rhus microphylla Heer, Svenska Vet.-Akad. Öfv. Forh. 28: 1184. 1871 (*nomen nudum*); Svenska Vet.-Akad. Handl. 12: 117, pl. 32, fig. 18. 1874 (fossil, Cretaceous, Greenland). Not *Rhus microphylla* Engelm. ex A. Gray, Smithsonian Contr. Knowl. 3 (5) (Pl. Wright. 1): 31. 1852.

The following fossil homonym has been reduced to synonymy:

Quercus obtusa Knowlton, U. S. Geol. Surv. Prof. Pap. 140: 38, pl. 22, fig. 8. 1926. (fossil, Miocene, Washington). Made a synonym of *Quercus simulata* Knowlton by Brown (U. S. Geol. Surv. Prof. Pap. 186-J: 173. 1937). Not *Quercus obtusa* (Willd.) Ashe, *Torreya* 18: 72. 1918.

Though no check was made of homonyms among fossils and synonyms of recent trees of the United States, as these names would not affect the nomenclature of the check list or cause any confusion, a few later homonyms of this type were found among the fossils. An example is *Abies mucronata* (Göppert and Menge) Göppert (Schles. Ges. Vaterl. Kult. Jahresb. 48 (1870): 55. 1871; originally described in the genus *Abietites*). Not *Abies mucronata* Raf. (Atl. Journ. 120. 1832), the name upon which was based *Pseudotsuga mucronata* (Raf.) Sudw., a synonym of *Pseudotsuga taxifolia* (Poir.) Britton.

SIMILAR BUT NOT IDENTICAL NAMES

Some names of fossils and recent plants which are similar but fortunately differ slightly in spelling may be retained without confusion as distinct names (art. 70), though possibly a few might be considered orthographic variants. A partial list of these similar names follows.

FOSSIL PLANTS	RECENT PLANTS
<i>Acer grosse-dentatum</i> Heer (1859)	<i>Acer grandidentatum</i> Nutt. ex. Torr. and Gray (1838)
<i>Crataegus holmesii</i> Lesq. (1887)	<i>Crataegus holmesiana</i> Ashe (1900)
<i>Fraxinus oregonensis</i> Knowlton and Cock- erell (1919)	<i>Fraxinus oregona</i> Nutt. (1849)
<i>Juglans quadrangula</i> Ludwig (1857)	× <i>Juglans quadrangu- lata</i> (Carr.) Rehd. (1900)
<i>Pinus quadrifoliata</i> Peola (1900)	<i>Pinus quadrifolia</i> Parl. ex Sudw. (1897)
<i>Quercus neomexicana</i> Knowlton (1918)	<i>Quercus novomexicana</i> (A. DC.) Rydb. (1901)
<i>Quercus treleaseii</i> Berry (1928)	<i>Quercus treleaseana</i> A. Camus (1932)

GENERIC HOMONYMS

Apparently no generic names of living trees of the United States are later homonyms of fossil genera. However, an unimportant example of a generic name used independently in living and fossil plants is *Batodendron* Nutt. (Trans. Amer. Phil. Soc., ser. 2, 8: 261. 1843), a segregate of *Vaccinium* L., generally not used by conservative workers. The name *Batodendron* Landsborough (Ann. Mag. Nat. Hist. 13: 290. 1844) was given a year later to a Paleozoic fossil from Scotland inadequately described without specific name. An Upper Devonian fossil from Siberia was named *Batodendron* sp. Chachloff (1921).

If a detailed check of extinct genera were made with indexes of generic names of living plants, it is likely that a few homonyms would be found. Of course, if the older name is rejected as a synonym and is no longer in use, the later homonym can be retained without confusion merely by making it a *nomen conservandum* (art. 21).

An example of a generic name in use in both groups is *Berrya*. *Berrya* Roxb. (Pl. Corom. 3: 60, pl. 264. 1819; usually spelled *Berrya*, an orthographic variant by DC., Prodr. 1. 517. 1824) is a genus of one or two species of Tiliaceae. *Berrya* Knowlton (U. S. Geol. Surv. Prof. Pap. 155: 133, pl. 41, fig. 4-5. 1930), a fossil genus of uncertain position with one species, is a later homonym. This has been synonymized with *Cercidiphyllum* by Brown (Journ. Pal. 13: 492. 1939).

AVOIDANCE OF HOMONYMS

A few suggestions for avoiding the creation of additional, unnecessary homonyms among recent and fossil plants may be drawn from the examples given. Of course, persons proposing new specific names in genera having both living and extinct species, especially large genera of woody plants such as *Quercus*, should check their tentative names in the best available indexes and catalogs of both groups. Additional published catalogs or indexes of fossil plants are urgently needed by taxonomists of living plants as well as by paleo-

botanists. Schopf⁴ has recently called attention to the desirability of continued compilation and publication of additions to the existing catalogs of American fossil plants.

Certain epithets are much more likely to be used independently for fossil and recent plants than others. Names derived from large geographical areas, such as Alaska and the States, are often repeated, but many fossils are named from a small locality where the types were collected or from the geological formation without risk of duplication. Epithets of obvious descriptive characters among certain species within a large genus containing both living and extinct species have a relatively high probability of being homonyms. Names suggesting resemblance to another species or indicating intermediate or uncertain characters may have been used before for fossils also.

As long as the number of homonyms among recent and fossil plants remains

⁴ SCHOPF, JAMES M., *American Committee on Paleobotanical Nomenclature*. *Chronica Bot.* 7: 226-227. 1942.

rather small, the problem is not serious, and possibilities of confusion at present are slight. If the number of homonyms among the two groups should ever be greatly increased at some future date when many more species of fossils are known, possibly the same epithets could be permitted for both recent and fossil species. Most specialists do not work with both groups anyway. The greatest sources for error then would be in recent species found also as fossils in the geologically youngest deposits, such as Pleistocene. Identical names for plants and animals are permitted (art. 6), though the names repeated are mostly genera. Another possible solution would be to assign slightly different generic names to fossils that are closely related to living genera. Then the same specific epithets could be repeated in both. To some extent this practice has been followed by the use of suffixes, such as *-ites*, and *-oxylon*, and *-phyllum* in the examples *Pinites* from *Pinus*, *Araucarioxylon* from *Araucaria*, and *Sapindophyllum* from *Sapindus*.

BOTANY.—*New grasses from the Philippines and South India*.¹ JOSÉ VERA SANTOS, Botanical Gardens, University of Michigan. (Communicated by AGNES CHASE.)

During the progress of a study on the *Genera of Philippine grasses*, Asiatic specimens of *Garnotia*, *Isachne*, and *Sacciolepis* were found in the United States National Herbarium that were either without or with doubtful determinations. Among them is the material hitherto generally referred to *Garnotia stricta* Brongn.² At the suggestion of Mrs. Agnes Chase, studies were undertaken on the distinguishing characters of the true *Garnotia stricta* Brongn., and a comparison was made with the material formerly referred to this species. The result of this investigation led to the examination of the species of *Garnotia* and the description of a

new species. The writer is greatly indebted to Mrs. Chase, for her technical assistance in the preparation of this paper, and to Dr. Elzada U. Clover, for going over the manuscript.

***Garnotia mindanaensis* Santos, sp. nov.**

Perennis, 45-55 cm alta; culmi caespitosi, erecti, simplices, nodiis pubescentibus; vaginae glabrae, collari pubescenti et venis prominentibus; ligulae 0.2 mm longae, glabrae; laminae lineari-lanceolatae, planae, 8-25 cm longae, 4-6 mm latae; paniculae 10-18 cm longae, angustae interruptae; spiculae 4-4.5 mm longae, 0.5-0.6 mm latae, anguste lanceolatae, e dorso compressae; glumae subaequales, breviter aristatae, 3-nerves, scabrae; lemma maturum glumas aequans, lanceolatum, glabrum, 3-nerve; arista lemmate 1-2.5 plo longior; palea anguste lanceolata, membranacea, marginibus supra auriculas molliter pubescentibus; lodiculae 2, minutae, spatulatae, glabrae.

¹ Received February 23, 1943. Papers from the Department of Botany of the University of Michigan, no. 820. Read before the 48th meeting of the Michigan Academy of Science, Arts and Letters held at the University of Michigan, Ann Arbor, Mich., March 26-27, 1943.

² In DUPERRÉY, M. L. I., *Voyage autour du monde* 2^e: 133-134, pl. 21. 1830.